



Commission
on Health and
Prosperity

WAITING FOR PROSPERITY

MODELLING THE ECONOMIC
BENEFITS OF REDUCING
ELECTIVE WAITING
LISTS IN THE NHS

**Anne Williamson
and Parth Patel**

April 2023

The Commission on Health and Prosperity

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Professor Simon Wren-Lewis, professor
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Sophie Howe, future generations
commissioner, Wales

Tom Kibasi, senior vice president of
strategy, Flagship Pioneering

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ABOUT THE AUTHORS

Anne Williamson is an independent researcher at IPPR.

Dr Parth Patel is a senior research fellow at IPPR.

Statistical analysis for this report was undertaken by:

Andrew Pijper, consultant at Lane Clark & Peacock (LCP)

Robert King, associate consultant at Lane Clark & Peacock (LCP)

Jamie Kettle, analyst at Lane Clark & Peacock (LCP)

Dr Rebecca Sloan, consultant at Lane Clark & Peacock (LCP)

Dr Jonathan Pearson-Stuttard, partner and head of health analytics at Lane Clark & Peacock (LCP)

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SUMMARY

The number of people waiting for elective healthcare is at record levels. Latest NHS data show that around one in eight people in England are waiting for elective care. Additionally, the number of people who have not come forward following pandemic-related disruptions to routine healthcare services was estimated to be around 7.8 million in 2021. This combines to a substantial amount of unmet need.

There is a compelling moral reason to reduce NHS waiting lists. Those waiting for elective treatment – such as knee replacement or cataract surgery - will be experiencing a poorer quality of life and risk getting worse as they wait. Living in good health is central to our capacity to lead a good life – to participate in our community, maintain relationships with friends and family, or stay in work. Furthermore, long and uncertain waits for healthcare can lead to mental health problems such as depression and anxiety.

There is also a convincing economic case to go further and faster on elective recovery. The economic benefits of elective recovery are unstudied. This lack of evidence can make policy commitments more difficult for government. As such, working with LCP Health Analytics, this paper seeks to understand the economic impact of different rates of progress against the elective backlog. We find that delivering against the target set by the Elective Recovery Plan (a 30 per cent increase in elective activity from 2019 levels by 2025) would deliver an estimated increase in production of **£73 billion over five years**, relative to activity returning to 2019 levels only. This accrues from:

- £18 billion in paid production from people returning to work or increasing their hours worked (directly contributing to GDP)
- £55 billion through work that people do that benefits others, but for which they are not directly remunerated. This includes childcare, caring for sick or elderly relatives, and volunteering - which also contribute indirectly to economic output

In addition, we estimate an associated **£14 billion in savings over five years** on formal and informal health and social care services from people being in better health following treatment.

Delivering a 30 per cent increase in elective activity is a challenging task – and not one that data suggest will happen without further policy intervention. Indeed, data suggest that less elective activity took place following the release of the Elective Recovery Plan in 2022 than in the same period in 2019. Doing better will require sustained government effort – across the NHS, adult social care, and community care.

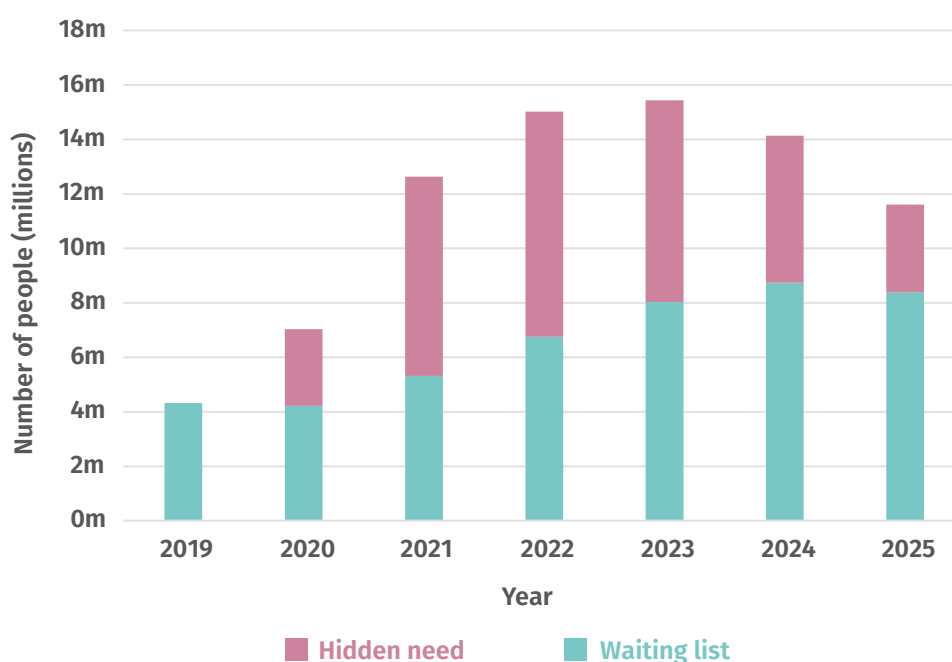
To help identify immediate opportunities for intervention, we explore the most pressing bottlenecks in the elective treatment pathways. Specifically, we identify ten new ideas to accelerate recovery – innovations that are demonstrably working in some places, but that have not been consistently deployed across the country. This is not intended to constitute a complete reform plan for the NHS, or even an exhaustive set of solutions – wider reforms will follow in future IPPR Commission on Health and Prosperity reports. Rather, it is intended to provide policymakers with new evidence and ideas in progressing on a very immediate health crisis.

1. INTRODUCTION

NHS data show that around one in eight people in England – 7.2 million patients – are on an NHS elective waiting list (NHS England 2023).¹ In addition to those on official waiting lists, analysis by LCP Health Analytics estimated that – as of 2021 – 7.8 million people had not come forward for care, following pandemic-related disruptions. Combined, this is a substantial level of unmet elective healthcare need (figure 1.1).

FIGURE 1.1: THERE IS A LARGE VOLUME OF UNMET ELECTIVE HEALTHCARE NEED IN ENGLAND

Projected annual unmet elective healthcare need in England, including ‘hidden need’



Source: Recreated from LCP Health Analytics 2021

For obvious reasons, bringing down the waiting list has been and remains a central priority among politicians and policymakers. In early 2022, NHS England published its Elective Recovery Plan – outlining a path to eliminating waits of longer than a year by March 2025. At the start of 2023, Rishi Sunak pledged that NHS waiting lists would begin to come down by the end of the year (Sunak 2023). The Labour Party has also recently pledged to bring down the size of waiting lists and the length of waits. Yet despite this welcome level of commitment across the board, progress

¹ There are, however, potential limitations to this data, with instances of double counting as some patients await multiple treatments, and inaccurate assessment of clinical need meaning that others are listed for a treatment that would not be suitable. Accounting for these factors can reduce total waiting lists, with one trust (Chelsea and Westminster NHS Trust) reducing inpatient waiting lists by 28 per cent through re-validation and clinical assessment (NHS 2022).

has not yet followed. Fewer people were treated from the waiting list since the Elective Recovery Plan was published in 2022 than were during the same period in 2019 (Warner and Zaranko 2023). Though there has been progress in reducing the number of people waiting a very long time, under strong leadership from the Elective Recovery Taskforce, overall activity still lags behind the necessary trajectory to deliver the Elective Recovery Plan (Warner and Zaranko 2023).

This is worrying. Long elective waiting lists carry a substantial human cost. While illnesses that require elective healthcare – such as osteoarthritis, endometriosis, or cataracts – are classified as ‘non-urgent’, they can have a considerable impact on a person’s quality of life and worsen if not treated promptly. In addition, qualitative research has shown that the experience of a long, uncertain wait can be painful, anxious, and lead to mental health problems (National Voices 2020).

In addition to the scale of human suffering, unmet healthcare need has considerable economic repercussions. The core claim of the IPPR Commission on Health and Prosperity is that poor health can undermine both individual and national prosperity.

There is evidence that large waiting lists and long waiting times are already having an impact on the UK economy. Labour Force Survey data show that a record number of working-age people are economically inactive primarily due to long-term sickness (2.5 million) (ONS 2022a).² Supplementary survey data of 55–64-year-olds show that one in five people who left work since the start of the pandemic were actively waiting for NHS treatment – rising to 35 per cent of people who left their previous job due to a health condition specifically (ONS 2022b).

Yet beyond this, the prospective economic benefits of rapid progress on the elective waiting list remain understudied. If the economic impacts are not known, then it is difficult for government to properly weigh up the costs and benefits of increased policy ambition – of going further and faster on elective recovery.³ In that context, this paper focusses on the potential economic benefit of reducing elective waiting lists in line with the ambitious timelines set out in the Elective Recovery Plan. **Chapter 2** reports our new modelling of the economic benefits associated with elective recovery. **Chapter 3** outlines immediate policy suggestions that could support the government in going further and faster through 2023. Combined, they deliver on this paper’s aim to support policymakers – from the prime minister, to the Department of Health, to HM Treasury – in evidencing the case for accelerated elective recovery and deploying policies to put that ambition into practice.

2 This group includes a large proportion of people who say they would like a job. Indeed, among economically inactive people, the percentage that would like a job is higher among the sick and inactive than among the well and inactive (Haskel and Martin 2022).

3 As demonstrated by disagreements between Treasury and the Department of Health and Social Care on timing, scale and investment for the Elective Recovery Plan in 2022. Rapid and sustained progress will require the issue to be seen as pressing by politicians and policymakers across the board, including the prime minister, Treasury, and the Department of Health and Social Care.

2. THE ECONOMIC BENEFIT OF ELECTIVE RECOVERY

Working with LCP Health Analytics, we estimate the economic impacts of elective waiting list reductions under three scenarios.

First, we model NHS elective waiting list trajectories. We assume 50 per cent of the ‘hidden’ waiting list return, in keeping with early projections from the Institute of Fiscal Studies (Warner and Zaranko 2022).⁴ We take the Elective Recovery Plan as our core scenario (delivering a 30 per cent increase on 2019 levels by May 2025, which we assume is then sustained until September 2027).

WHAT IS THE ELECTIVE RECOVERY PLAN?

The NHS Delivery Plan for tackling the Covid-19 backlog of elective care (otherwise referred to as the Elective Recovery Plan in this report) commits to eliminating all waits of over 12 months and delivering 30 per cent more elective activity by 2025 (NHS 2022). Government have allocated £16.6 billion to delivery of this plan over three years – a figure broadly in line with independent cost estimates of necessary resource (see, for example, Rocks et al 2021). This includes:

- £8 billion to support elective recovery from 2022/23 to 2024/25
- £5.9 billion investment in capital
- £2 billion for the Elective Recovery Fund
- £700 million for the Targeted Investment Fund

These measures alone have not yet achieved sustained success in increasing activity levels. In the 10 months following the publication of the plan, the NHS treated 5 per cent fewer patients from the waiting list than during the same period in 2019 (Warner and Zaranko 2023).

Second, we model two partial scenarios: a ‘moderate’ increase of 20 per cent and a ‘conservative’ increase of 10 per cent on 2019 levels of activity (table 2.1). These are each compared to a counterfactual where elective activity returns to 2019 levels. We do not include non-elective pathways, such as cancer referrals or community physiotherapy services, as data on these waiting lists are less accessible and the recovery trajectory may differ.

⁴ Further explanation of waiting list projections can be found in Appendix A, including a sensitivity analysis assuming 75 per cent of the ‘hidden’ waiting list return.

TABLE 2.1: INCREASING ELECTIVE ACTIVITY WILL SIGNIFICANTLY EXPAND THE NUMBER OF PATIENTS TREATED

Modelling scenarios, by increase in elective activity relative to pre-Covid levels

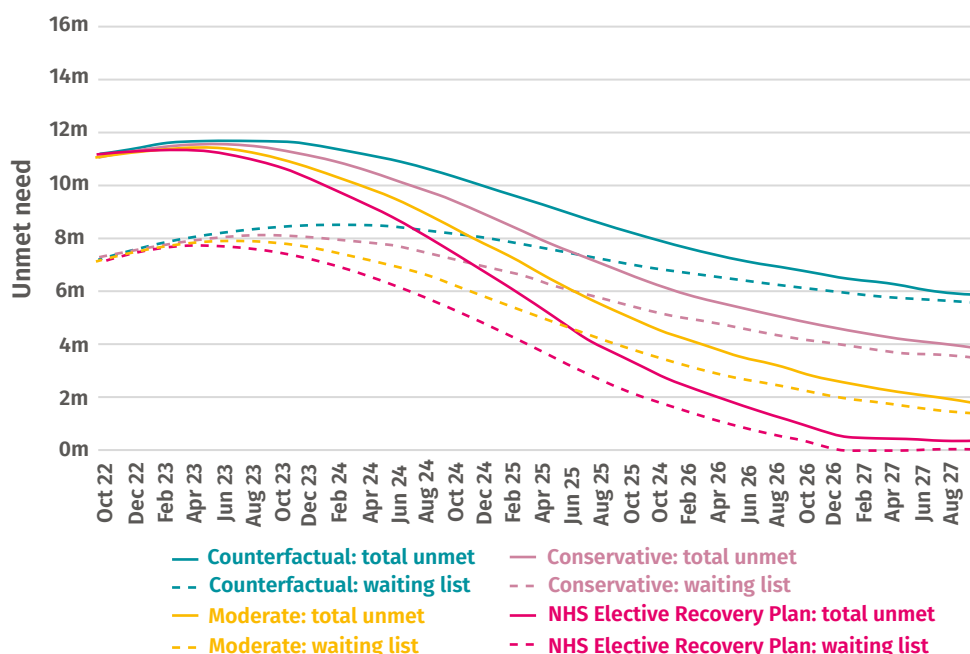
	Increase in capacity relative to pre-Covid-19 baseline (1.39m treated per month)	Number of patients treated per month from 1 May 2025	Increase relevant to current treatment levels (1.33m treated per month)
Counterfactual	0%	1.39m	4%
Conservative	10%	1.52m	15%
Moderate	20%	1.66m	25%
NHS Elective Recovery Plan	30%	1.80m	36%

Source: LCP analysis of consultant-led referral to treatment (RTT) waiting times (NHS England 2022)

Under the Elective Recovery Plan scenario, we project that NHS elective waiting lists could fall to around 100,000 by 2027 (figure 2.1). This would require over 18 million more completed treatments, over the next five years, than the counterfactual scenario (i.e. 2019 levels). By comparison, our moderate and conservative scenarios would leave 1.4 million and 3.5 million people in unmet need by September 2027 respectively.⁵

FIGURE 2.1: ELECTIVE WAITING LIST TRAJECTORIES VARY GREATLY BASED ON ACTIVITY DELIVERED

Projection of unmet need for NHS elective treatments in each scenario, 2022–27



Source: LCP projection based on of consultant-led RTT waiting times (NHS England 2022)

⁵ We note that even under the counterfactual scenario, total unmet need would eventually fall. This is because under this scenario, elective activity will rise slightly from current levels back to 2019 levels of elective activity – which slightly exceeds the current rate of new joiners.

From these figures, we use the NICE wider societal benefits model to estimate the potential economic benefit of each waiting list reduction scenario (Department of Health 2013). Table 2.2 shows the estimated economic benefit for each scenario, for a five-year period. A full outline of our methodology can be found in the **appendices**.

TABLE 2.2: FASTER PROGRESS ON CLEARING THE WAITING LIST HAS LARGE ECONOMIC BENEFITS

Estimated additional economic impact of elective activity increases over a five-year period (2022 to 2027)

Scenario	Reduction in waiting times (patient-years)	Gain in net production (2022 prices)
Conservative	5.7m	£28bn
Moderate	11.3m	£56bn
NHS Elective Recovery Plan	16.8m	£83bn

Source: LCP analysis using the NICE Wider Societal Benefits model (Department of Health, 2013)

We estimate that delivering against the target set by the Elective Recovery Plan would deliver an estimated increase in production of **£73 billion over five years**, relative to activity returning to 2019 levels only. These gains accrue across the following:

- £18 billion from patients returning to work or increasing their hours worked (contributing directly to GDP)
- £55 billion from increased unpaid productive activities such as childcare or sickness care for relatives.

In addition, we estimate an associated **£14 billion in savings over five years** on formal and informal health and care services deriving from people being in better health following treatment.

The NICE Wider Societal Benefits model combines these changes in production and consumption into a total estimated gain in net production⁶ of £83 billion over five years (table 2.2).

Figures 2.2 and 2.3 gives this breakdown for the three scenarios modelled.

HOW DO THESE ECONOMIC BENEFITS RELATE TO OTHER ECONOMIC INDICATORS?

GDP: The projected £18 billion gain in paid production will directly increase output, as measured by GDP. Some proportion of the £55 billion increase in unpaid production will also translate into GDP gains, as childcare and similar activities facilitate family members returning to work, taking on more paid work hours, or increasing productivity. A firm estimate of this impact is beyond the remit of this paper. Health and social care savings have a more ambiguous effect on GDP – a fall in spending could reduce GDP, but is more likely to allow a redirection of funding to more productive health programmes.

Net borrowing: These projected economic benefits could affect government borrowing requirements through tax revenues and health spending. The average tax on labour income in the UK was 31.3 per

6 Net production and its components are explained fully in appendix A.

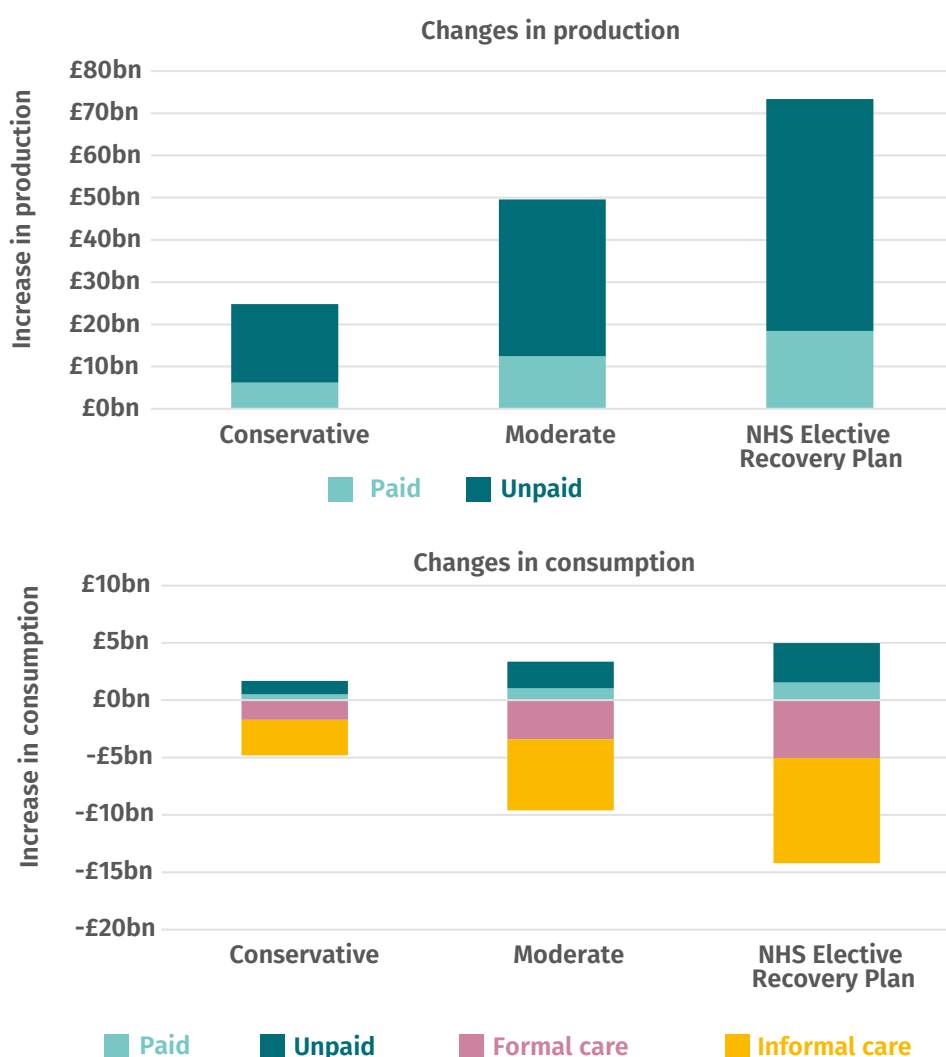
cent in 2021 (OECD 2022). We do not, however, estimate increased tax revenues here, as the income and industry of workers returning to paid work following treatment is unclear. Depending on subsequent use of the resources, savings on health and care could also reduce net borrowing.

The intent of this paper is not to present elective recovery as a silver bullet for wider UK challenges with stagnant growth and productivity. Rather, we present these impacts to show:

- that a convincing economic case exists to go further and faster on elective recovery
- that good healthcare can be seen as a springboard for the UK economy, rather than purely a cost, building on wider literature elsewhere (NHS Confederation 2022).

FIGURE 2.2 AND 2.3: ECONOMIC BENEFITS ACCRUE FROM INCREASED PAID PRODUCTION, UNPAID PRODUCTION, AND SAVINGS ON FORMAL AND INFORMAL CARE

Changes in production and consumption associated with three scenarios of elective activity increase

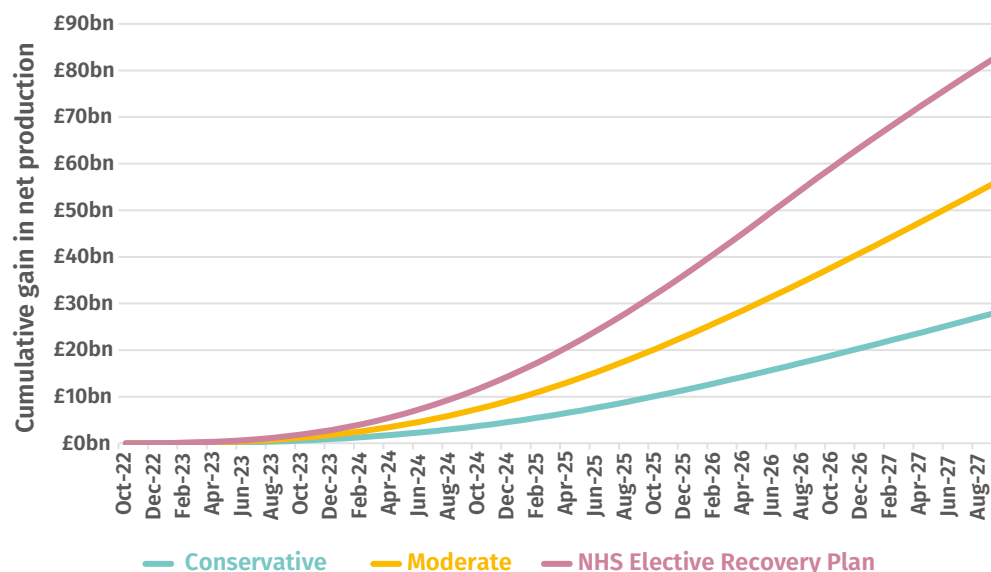


Source: LCP analysis using the NICE Wider Societal Benefits model (Department of Health 2013)

Around £30 billion of the potential gain in net production would accrue by September 2025.⁷ Larger benefits are projected to accumulate after the initial three years as more patients are treated – figure 2.4 shows that over half the total projected gain in production would accrue in the final 18 months of the next five years (April 2026 to September 2027).

FIGURE 2.4: ECONOMIC BENEFITS ACCELERATE AS MORE PATIENTS ARE TREATED

Estimated population gains in net production over time 2022–27



Source: LCP analysis using the NICE wider societal benefits model (Department of Health, 2013)

In this analysis we have focussed on waiting list reductions and economic benefits at the national level. Yet waiting lists, illness, and workforce absences are not equally distributed. More people are waiting for treatment, and waiting longer, in areas of socio-economic deprivation (Holmes and Jefferies 2021). As such, delivering against the Elective Recovery Plan is likely to reduce health inequalities (and with them, economic inequalities) as well as supporting national health and prosperity more broadly.

⁷ Over £13 billion more than the current funding allocated to elective recovery over this three-year period.

3.

CAN WE GO FURTHER AND FASTER ON ELECTIVE RECOVERY?

The analysis set out in the previous chapters suggests that reducing the NHS elective backlog is an important aspiration – and that sufficient ambition for the speed and size of that recovery is important. It is also important to establish whether:

- we are on track to meet those aspirations
- if not, whether better is theoretically possible, and
- if needed, what means are available to policymakers to accelerate progress.

On the first question, it is important to recognise that the NHS has made meaningful progress in reducing the number of people waiting a very long time for treatment – with waits of two years or more nearly eliminated under guidance from the Elective Recovery Taskforce. Despite this, as Institute for Fiscal Studies research has shown, progress towards achieving a 30 per cent increase in elective activity (compared to 2019 levels) has been more elusive (Warner and Zaranko 2023). Fewer patients were treated following publication of the Elective Recovery Plan in 2022 than in the same period in 2019. In other words, activity is lagging behind the necessary trajectory – and to deliver the gains modelled in the previous chapter, more needs to be done.

On the second question, recent history shows that achieving relatively rapid progress on waiting lists is possible. In the 2000s, the NHS 18-week target was convincingly delivered with the median wait for elective procedures reduced to 4.5 weeks by 2009 (Blythe and Ross 2022). This was accompanied by an increase in public satisfaction with the NHS from 33 per cent in 2001 to a peak of 70 per cent in 2010. Key strategies included increased investment in staff and extended hours, establishing a clear central vision, and building data infrastructure for accountability and progress (ibid 2022).⁸

As such, this chapter focusses on the third issue – identifying immediately implementable routes through which policymakers can increase elective activity and reduce backlogs. This is not presented as a full plan for NHS reform – or even a long-term plan for elective care pathways. Instead, it is outlined as a repository of innovative ideas – often working effectively within a trust, provider collaborative⁹ (PC) or integrated care board (ICB), but which have not been scaled nationally.

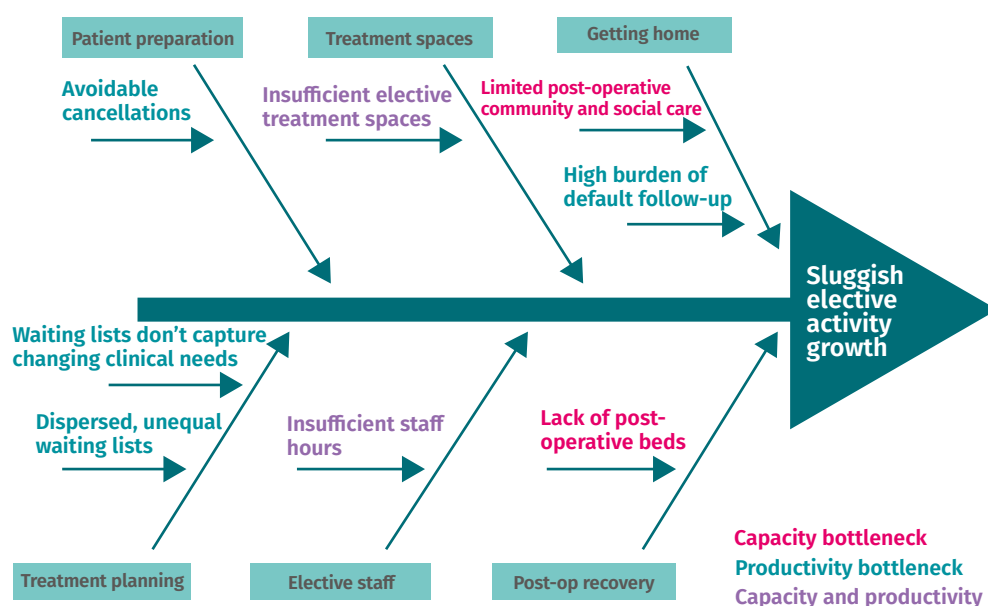
8 While there is much that can be learned from the 2000s era – which delivered its stated goal – we should also learn from the unintended consequences that stressful performance metrics and narrowly focussed targets had on both staff and patients. Instead, we must work with providers to identify and support opportunities for both efficiency and sustainable improvements.

9 PCs are partnerships that bring together two or more NHS trusts to work together at scale to benefit their populations. This model has been used in mental health for several years and have more recently become common in acute and community settings. PCs work with ICB leaders to streamline resources and standardise care (NHS Confederation 2023).

More specifically, this chapter undertakes a bottleneck analysis of the elective care pathway (figure 3.1). Considering each step in the treatment pathway in turn, we explore where there are major limits on activity and productivity. Most of these challenges apply across elective services, whilst some are specific to either operative or non-operative care. From there, we outline policies to help remove those barriers to maximising elective activity – in each case, using examples of local innovation to suggest how each idea could work, and to evidence why each recommendation could deliver in practice.

FIGURE 3.1. THERE ARE OPPORTUNITIES TO INCREASE ACTIVITY AND PRODUCTIVITY ACROSS THE ELECTIVE TREATMENT PATHWAY

Bottleneck analysis, elective treatment pathway, England



Source: Authors' analysis

THE SCOPE OF OUR RECOMMENDATIONS

Our proposals in this report are not intended as either exhaustive, or a total reform plan for the NHS. Rather, they identify solutions policymakers can use to make progress on a very immediate health crisis. To that end, our focus is on provider level interventions. Above and beyond this, it is important that these reforms are combined with an ongoing government commitment to funding the necessary staff capacity and capital infrastructure to deliver better health and care for all.

Alongside recommendations to increase elective activity, we note that policy often focusses on the supply of services with no cohesive strategy for managing demand. Primary care, adult social care, and community health are key services for delivering elective treatments, but also play a much wider role in preventing future health conditions arising. Far from a trade-off between investing in elective recovery and wider health services, the two are mutually reinforcing. Timely elective care prevents deterioration, while prevention reduces future elective need. The IPPR Commission on Health and Prosperity will present a comprehensive approach to preventative services later this year.

BETTER TREATMENT PLANNING

Recommendation 1: There should be proactive clinical assessment of waiting list patients to reduce the number of last-minute cancellations and ensure the best care for each patient's current condition.

Some people have been waiting so long that their clinical condition has changed substantially – whether because they have received other treatments, or because they have reached a point where surgery is no longer safe. Diagnostic criteria also vary between trusts, and some were implemented imperfectly through virtual consultations necessitated by Covid-19, meaning not all referrals were appropriate to begin with.

As a consequence, current waiting lists include a number of patients listed for treatments that would not be best for their condition. For instance, the conversion rate¹⁰ for cataract operations is less than 60 per cent for some providers – as some patients are no longer eligible by the time their surgery is scheduled, whilst others were not clinically suitable in the first place (MacEwen et al 2019). Such inaccurate waiting lists lengthen the route to the most appropriate care for these patients, whilst also extending the wait for others in ongoing need.

As such, we recommend proactive clinical assessment of waiting list patients, with the aim of reducing the number of last-minute cancellations and facilitating the best care for each patient's current condition. Chelsea and Westminster Hospital NHS Trust deployed this model to reduce their inpatient waiting list by 28 per cent through validation and improved clinical oversight (NHS 2022). This solution also gave priority to those “with the highest clinical risk who had waited the longest”, a hybrid prioritisation that partially accounts for the health inequality arising from additional impacts of long waits for patients with co-morbidities. The UK has a strong track record in similar prioritisation algorithms, with the acclaimed QCovid[®] decision tool guiding shielding advice and vaccine rollout by estimating a person's risk of hospitalisation or death due to Covid-19 (QCovid 2023).

NHS Trusts could also better involve their local population in decisions about prioritisation within waiting lists. Coventry and Warwickshire ICB have used public deliberation to ask whether priority algorithms should adjust for factors including individual health conditions and disability, ability to work, or area of deprivation (Patel et al 2022). A majority felt prioritisation should account for individual health more broadly, but not include non-clinical considerations (for example, the ability to work). They felt addressing health inequalities was important, but these “interventions needed to take place upstream to the waiting list”. Each ICB should tailor pragmatic waiting list assessment to the needs and preferences of the community they serve.

Recommendation 2: Every ICB or provider collaborative should have a single-queue waiting list, to ensure patients have the option of faster care if available.

Most patients are currently referred to a specific hospital and wait in that queue even if a faster option becomes available elsewhere. The shift to regional ICBs is an opportunity to transform these dispersed, unequal waiting lists into a single regional queue. The formation of PCs offers further prospects for collaboration (see case study), though we note many are still in early stages of development.

We recommend ICBs, and PCs where these are established, review all elective services they provide and identify those best suited to a single pooled queue. Patients would wait in a single queue until a suitable consultant across one

¹⁰ The conversion rate refers to the proportion of patients referred to hospital services with a condition, having met referral criteria for surgery, who actually receive surgery.

of multiple sites in the local area is available. Patient preferences can be built into this system – for instance, some patients may choose to wait a little longer to receive care at their local provider due to mobility or transport issues. This should be flagged and accommodated without being classified as these patients ‘rejecting’ earlier appointments elsewhere. For most patients, however, this integrated queue service would lead to faster treatment. A systematic review found this model decreases patient waiting times and achieves high patient satisfaction (Damani 2017).

Single-queue waiting lists should be also supported by better data coordination across PCs, to identify individuals awaiting multiple treatments, linking specialists, and consolidating care at a single site if possible (Taylor et al 2008). This would simultaneously improve the experience of patients and allow more elective care to be delivered.

CASE STUDY: WEST YORKSHIRE VASCULAR SERVICE

Five West Yorkshire hospital trusts have joined together to deliver a single, regional vascular service. This operates with a shared single-queue model for provision of treatment, integrated with local services through repatriation agreements so home rehabilitation services can be delivered close to home in the community.

This service operates through two ‘arterial centres’, which deliver emergency and routine services. Three non-arterial centres then co-locate providers of routine outpatient clinics, diagnostics, and operative services to reduce total patient visits.

Source: WYAAT 2022

GET PATIENT PREPARATION RIGHT

Recommendation 3: Implement an all-hours pre-operative support line and personalised pre-operative advice to enhance preparation.

It is common for planned treatments to be missed or cancelled for avoidable reasons. A cross-country systematic review found around one in five elective surgery cancellations were caused by patient-related reasons such as not being medically fit for a scheduled operation, not attending, not having fasted, or taking medications that should have been stopped (Koushan et al 2021).

We recommend that PCs review pre-operative patient support services and seek to install a two-way pre-operative communication and support service that integrates elective care specialists, primary care, and community support. This could include, for example, a dedicated pre-operative call line across a PC that ensures all patients have received a call the day before their operation reminding them of essential preparation steps, while also functioning as an all-hours phone line patients can access directly with questions they may have ahead of an operation. Such a service would prevent problems that arise if patients find it difficult to contact their surgical team and resolve simple questions – such as whether to take their usual medications on the morning of surgery.

Better digital communications can also help mitigate on-the-day cancellations. The ‘My Planned Care NHS’ website is a promising first step that allows patients to find general health advice (My Planned Care NHS 2023). There is, however, a limit to generic medical advice. Patients with a high BMI, or who smoke, may benefit

from tailored preparation advice focussed on these modifiable risk factors for surgical complications. An improved NHS App, linked into relevant medical records with a chat function, could be a platform to communicate tailored pre-operative advice and support. Empowering many patients in this way would also free up pre-operative staff capacity to provide offline tailored support for others who are less comfortable with digital technologies.

CASE STUDY: EPAQ PRE-OPERATIVE ASSESSMENT AND SUPPORT

At Sheffield University Hospitals, patients referred for preoperative assessment are asked to complete a web-based Personal Assessment Questionnaire (ePAQ). This service is offered to patients aged over 18 years, who are assessed as being relatively fit and healthy, with a dedicated contact number provided for patients requiring support. Following completion of the ePAQ, a specialist assessment nurse will phone them for review. Patients then receive a 30-minute face-to-face appointment with a support worker for any necessary tests and clarifications prior to their operation.

This initiative reduced pre-operative assessment nursing time by up to 40 per cent, saving 400 hospital visits per month. 77 per cent of patients reported that the ePAQ helped with communication, and 98 per cent would be happy to use it again.

Source: Taylor et al 2018

INCREASE ELECTIVE STAFF CAPACITY

Recommendation 4: Implement activity-based surge pay funded by central government for weekend elective care, and pool shortage occupation list professionals across provider collaboratives.

The Elective Recovery Plan's targeted increase in elective activity can only be achieved through an increase in elective care hours. This could be through an expansion in the size of the workforce, or an increase in the number of hours worked by current staff. We explore both.

Currently, it is rare for elective treatments to be performed on weekends. Making better use of this time would significantly boost efforts to achieve a 30 per cent increase in activity by 2025. As such, we recommend each PC develop a pooled weekend service for specialties with the longest waiting lists in their region. The limiting factor to delivering elective care on the weekend, even more than mid-week, is staff availability. An activity-based surge pay rate system could be considered, set at a level to incentivise people to take weekend shifts (Appleby et al 2012). Activity-based pay is where staff wages depend in part on the volume and/or mix of treatments, rather than just the number of hours worked. A surge rate describes additional pay for staff working shifts beyond their usual contracted hours. Weekend elective staff could be paid a base rate plus an activity-based bonus for operations completed – with separate administrators selecting which operations are scheduled, to mitigate adverse effects whereby activity-based pay incentivises only simple cases.

A fairer, activity-based payment scheme would help recognise the extra effort put in by staff working to expand elective activity. If this leads to a weekend service that empowers teams and reduces frustrating inefficiencies, there is evidence that this policy could improve staff motivation (see 'Super Saturday' lists case study).

CASE STUDY: 'SUPER SATURDAY' LISTS

Elective theatres are not usually open on the weekend. A pilot project by the Northern Care Alliance NHS Group decided to organise a series of 'Super Saturday' weekend lists to deliver hip and knee replacements. These utilised two theatres, two anaesthetists, and one surgeon to operate on 10 patients in one day. Staff chose to be part of this team willingly due to the positive momentum of the initiative – consequently, no agency staff were used. They were also empowered throughout; the team designed service improvements collectively, and agreed break times between themselves.

All listed cases were completed by 6.30pm, with no increase in post-operative complications requiring additional hospital resources or follow-up beyond normal. A major staff morale boost was observed, with feedback describing "a real buzz all day in theatres." In particular, staff reported being happy to deliver efficient care.

Source: Bury Care Organisation 2021

To maximise productivity, providers could also consider a tiered payment structure – whereby higher overtime rates are available to permanent or NHS bank staff within a PC, as compared to locum staff. Permanent staff are often more efficient than locums as they are already familiar with hospital systems and technology, equipment, and procedures for elective patient flow (Ferguson and Walshe 2019). Furthermore, consistent teams of permanent staff can be even more efficient, as a healthcare team where individuals know each other will reduce miscommunication (see high intensity theatre lists case study). This payment structure would incentivise current agency staff to join NHS staff bank networks, while also minimising inefficient agency spending.

CASE STUDY: HIGH INTENSITY THEATRE LISTS

Dedicated weekend theatre lists at Guy's and St Thomas' NHS Foundation Trust rely on increased theatre staff to minimise turnaround time and allow surgeons to operate for over 95 per cent of the day. Over 15 one-day lists have run across specialities including gastroenterology, gynaecology, orthopaedics, and ENT, at four times the usual efficiency. Dr Imran Ahmad, consultant and deputy clinical director for anaesthesia and theatres, described the team as: "like a Formula 1 pit stop crew where you have people who are all well trained and work together to do something very efficiently and safely".

Source: Guy's and St Thomas' NHS Foundation Trust 2022

Furthermore, we recommend PCs pool shortage occupation professionals across sites. Staff shortages were identified as a cause of delays across 27 of 43 trusts analysed by the National Audit Office, with a spotlight placed on bottlenecks caused by shortages in certain specialist roles. Diagnostic services are one site of frequent hold-ups, due to falling radiographer numbers even as consultant numbers have risen (National Audit Office 2019). Staff pooling successfully redistributed capacity throughout the first year of the Covid-19 pandemic. Each PC could consider a similar model, identifying 'occupational bottlenecks' in each hospital and then pooling key staff, whilst prioritising training for these roles in the long run.

INCREASE THE SPACE AVAILABLE FOR ELECTIVE TREATMENT

Recommendation 5: Expand elective surgical hubs, and one-stop centres for non-surgical treatment, to ring-fence elective capacity and make better use of community settings.

In many cases, elective or urgent treatment pathways are in competition. This can lead to inefficiency, when the arrival of an emergency case means multiple scheduled operations are postponed. The last-minute rescheduling brings delays and confusion as the team and equipment must adapt unexpectedly, rather than both elective and emergency operations running in a parallel, planned manner.

‘Elective hubs’, where specific theatres, teams, and governance structures are dedicated to elective operations, are an increasingly widespread approach to overcome this inefficiency. Successful case studies exist across the NHS (see below), as pioneered by the Getting It Right First Time surgical initiative (Briggs 2021). New funding has recently been pledged to open 50 new surgical hubs – this must be prioritised and delivered quickly, with evidence suggesting increased efficiency and improved infection control (Royal College of Surgeons 2022). Further, the one-stop model could be applied to non-surgical treatments to increase productivity and reduce the need for repeat visits.

Considerable productivity improvements are also possible with specialised high-throughput lists. For example, if a surgical team performs only knee replacements for a day, in-theatre productivity is likely to be higher – as similar equipment and staff skills will be required for each case. If the same team come together to deliver this service consistently, expertise and better teamwork may unlock even greater elective activity and fewer mistakes (see BONES case study). This has been evidenced by the High Volume Low Complexity Programme, which advocates dedicated lists pooling straightforward cases of common operations including joint replacements, hernia repairs, and cataract surgery (Briggs 2021).

CASE STUDY: BARKING, HAVERING AND REDBRIDGE ORTHOPAEDIC NHS ELECTIVE SURGERY (BONES) HIGH VOLUME WEEK

The ‘BONES’ initiative brought together the orthopaedic multidisciplinary team to design a ‘perfect week’ of intensive activity in ring-fenced theatres, performing 135 arthroplasties and 85 day cases in seven days – three times the normal amount. The team were fully involved in designing improvements and anticipating hurdles. Notably, the identified changes have proved sustainable, with 130–160 per cent of usual activity delivered and a 30 per cent reduction in cancellations in subsequent months.

Source: Vemulapalli 2021

INCREASE POST-OPERATIVE RECOVERY CAPACITY

Recommendation 6: Enhance digital support for in-hospital post operative bed management.

Lack of beds was the second most frequent reason for on-the-day cancellations in one NHS Trust, and causes 7 per cent of cancellations globally (Dimitriadis et al 2013; Koushan et al 2021). Advance planning of in-hospital bed management, and digital support for safe ‘virtual wards’ at home, can help to overcome this key bottleneck that causes upstream delays.

Hospital bed management too often relies on inefficient in-person meetings or ward-to-ward arrangements to identify when a bed may become vacant. It is a system that would benefit from better use of data analytics, which could automate risk assessments and predict the number of beds that are likely to become vacant using real-time data.

CASE STUDY: KETTERING GENERAL HOSPITAL AND NHS AI LAB SKUNKWORKS

This 14-week project sought to use AI to improve bed management, aiming towards the “right patient, in the right bed, receiving the right care, at the right time”. The team used five years of historic, pseudonymised data on patient admissions, and two years of patient flow data, to develop a ‘virtual hospital’ and test different forecasting models.

The pilot model allocated the best bed to a patient at the point of need, and gave explainable reasoning behind this allocation to the user. Hospital staff responded positively, with the digital director stating, “this tool will help the likes of myself and others by supporting decision-making”. Kettering General Hospital is now working to bid for further funding to refine and operationalise this system.

Source: NHS Transformation Directorate 2021

Recommendation 7: Ensure virtual wards are available in every trust to integrate secondary care with safe home discharge services.

‘Virtual wards’, a new innovation becoming increasingly widespread, offer intensive secondary care support through digital monitoring, remote and face-to-face follow-up. First rolled out for chronic conditions such as heart failure, a small number of pioneering trusts have now established post-surgical virtual wards to facilitate safe discharges and increase theatre throughput (see bowel surgery virtual ward case study). Recent guidance supports expanding this model across all trusts, but success will require the sharing of implementation lessons, tailoring to local needs and integrating with community services alongside appropriate funding support (NHS Transformation Directorate 2023).

CASE STUDY: BOWEL SURGERY VIRTUAL WARD

University Hospitals of Leicester established a virtual ward for bowel surgery patients, allowing more timely discharges with remote monitoring technology and support from clinical teams who can act swiftly if the patient’s health deteriorates. Across a number of conditions treated in this way, the Trust has saved 1780 bed days and helped over 1000 patients since December 2020. “Virtual wards are all about putting the patient experience at the centre of healthcare. We have seen that being at home can have a positive impact on recovery and mental wellbeing.”

Source: University Hospitals of Leicester NHS Trust 2022

HELP PEOPLE GET HOME

Recommendation 8: Invest in community-based post-operative follow-up services.

Getting home is arguably the most important bottleneck in the entire elective care journey. The UK average length of hospital stay for common elective procedures is longer than many comparable countries. For instance, cataract patients spend an average of 2.1 days in hospital compared to 1.2 days in Australia, France, and the Netherlands (OECD 2023).

After a successful operation or treatment, patients should return home safely as soon as possible – for their own comfort, improved recovery outcomes, and increased hospital bed capacity for other post-operative patients (Buhagiar 2017). Safety is a critical requirement of this process, however, so support at home is vital.

The core service integral to providing this support is community health, including ‘hospital at home’ follow-up services, physiotherapy, and district nursing teams. Community services have been especially underfunded – data show that the number of district nurses fell by 43 per cent from 2010 to 2019, with commensurate cuts to other services at a time of rising demand (Fanning 2019). ICBs and the government should re-prioritise investment in this community post-operative infrastructure, which offers a cost-effective way to widen the discharge bottleneck and help patients recover well at home.

Recommendation 9: Make better use of patient-initiated follow-up across all provider collaboratives (where clinically appropriate).

Under standard pathways, patients are booked for routine follow-up appointments at set intervals (for example, every six months), regardless of whether they feel better or worse, or even whether the planned date is possible for them. Unnecessary appointments cause inconvenience and poor use of clinical time, while the resulting long waits and rushed consultations harm patients who truly need follow-up (Reed and Credlin 2022).

A patient-led approach to follow-up offers a promising route to better match health needs with provision of care. Offering the option of patient-initiated follow-up (PIFU) aims to give choice back to patients, allowing them to book appointments as needed. Patients still remain under formal care of the specialist team, who can also arrange follow-up if clinically indicated. This helps shift certain follow-up services into the home setting rather than outpatient clinics. It can also increase total supply. Systematic review (ibid 2022) finds evidence that PIFU leads to fewer total appointments per patient and reduces missed appointments, with no harmful effects on clinical outcomes.

Recommendation 10: Attract more people into the social care workforce and invest in post-discharge skills for staff development.

A more efficient elective care pathway must prioritise post-operative care for the most vulnerable patients – those discharged to the care sector. Better access to social care in the community is perhaps the single most effective approach to opening up hospital beds. During the month of October 2022, only 40 per cent of patients were discharged when they were medically fit – which NHS Confederation analysis attributes directly to social care vacancies and skill gaps (Deighton and Plewes 2022). Evidence suggests that approximately 40 per cent of discharge delays were due to patients waiting for social care services in 2022 (Cavallaro et al 2023).

Unlike training healthcare professionals, it takes less than a fortnight to become a care worker, so rapid improvements in hospital throughput are possible by building

social care capacity. The government should consider how to draw people into the care labour market. One approach would be to raise care sector wages – with Scotland and Wales having both implemented sectoral minimum wages. While pay is not the only factor that determines whether people choose to work in social care, it is an important consideration. Most care roles are currently low paid, which renders this sector particularly vulnerable to losing staff to other employers such as supermarkets if they offer better rates. Furthermore, pay progression is limited in social care, with an increasing proportion of the workforce now paid at or around the minimum level (Ward 2019).

Beyond staff numbers, we recommend investing in post-discharge skills for social care staff development. These skills could include monitoring and caring for surgical wounds, or basic post-operative physiotherapy. Additional training or an expanded care diploma including these specialist skills could allow more timely discharges for patients who rely on social care, as carers have the skills to keep them safe and well. This should learn from efforts to enhance knowledge and skills in dementia care, which are equally important for safe discharges (All-Party Parliamentary Group on Dementia 2019). There is evidence that skills development would also improve care worker recruitment and retention (Skills for Care 2022).

HOW DO OUR RECOMMENDATIONS RELATE TO EXISTING FUNDING?

Most of our recommendations can be delivered within the allocated £16.6 billion three-year (2022-2025) funding settlement for elective recovery. They offer policies that ICBs could consider to optimise the impact of these funds. For instance, the additional £8 billion committed to support elective recovery has largely been earmarked for staff funding – this could be partially delivered using the activity-based surge pay that we recommend to incentivise elective weekend services. Capital funds could similarly be directed towards improved digital support for patient preparation, post-operative bed management, and virtual wards.

Two of our recommendations extend beyond current spending plans: community follow-up services and social care. Investment in both areas is critical to widening the bottleneck in post-operative discharges, yet the impacts extend further – with benefits from improved patient wellbeing and independence, to a reduction in avoidable admissions. We do not conduct a full economic assessment of these services here, but recommend future assessment accounts for the economic benefits of elective care presented in this report.

REFERENCES

- All-Party Parliamentary Group on Dementia (2019). Workforce Matters: Putting people affected by dementia at the heart of care. <https://www.alzheimers.org.uk/sites/default/files/2022-09/APPG%20on%20Dementia%20Workforce%20Matters%20Report%202022.pdf>
- Appleby J (2012) *Payment by Results: How can payment systems help to deliver better care?*, The King's Fund. <https://www.kingsfund.org.uk/publications/payment-results-0>
- Blythe N and Ross S (2022) *Strategies to reduce waiting times for elective care*, The King's Fund. <https://www.kingsfund.org.uk/publications/strategies-reduce-waiting-times-elective-care>
- Briggs T (2021) *Elective Recovery High Volume Low Complexity (HVLC) November 2021 guide for systems*, Getting It Right First Time. https://www.gettingitrightfirsttime.co.uk/wp-content/uploads/2021/12/GIRFT_HVLC_Guide_Edition_2_FINAL.pdf
- Buhagiar M A et al (2017) 'Effect of Inpatient Rehabilitation vs a Monitored Home-Based Program on Mobility in Patients With Total Knee Arthroplasty: The HIHO Randomized Clinical Trial', *JAMA*, 317(10): 1037–1046. <https://doi.org/10.1001/jama.2017.1224>
- Bury Care Organisation (2021) *Super Saturday: A Test of Change*, Getting It Right First Time. https://www.gettingitrightfirsttime.co.uk/wp-content/uploads/2021/09/Pennine-Super-Saturday-PDSA_Powerpoint_Final.pdf
- Cavallaro F et al (2023) *Why are delayed discharges from hospital increasing? Seeing the bigger picture*, The Health Foundation. <https://www.health.org.uk/publications/long-reads/why-are-delayed-discharges-from-hospital-increasing-seeing-the-bigger>
- Claxton K et al (2015). *Health Opportunity Costs (Estimating health opportunity costs in the NHS and other health care systems): Methods for estimation of the NICE cost-effectiveness threshold*. University of York Centre for Health Economics. <https://www.york.ac.uk/che/research/teehta/thresholds/>
- Damani Z et al (2017) 'What is the influence of single-entry models on access to elective surgical procedures? A systematic review', *BMJ Open*, 7(2): e012225. <https://doi.org/10.1136/bmjopen-2016-012225>
- Deighton R and Plewes J (2022) 'Social care, patient flow and the elective backlog', NHS Confederation. <https://www.nhsconfed.org/articles/social-care-patient-flow-and-elective-backlog>
- Department of Health (2013) *Methodology for estimating 'Wider Societal Benefits' as the net production impact of treatments*. <https://www.nice.org.uk/Media/Default/About/what-we-do/NICE-guidance/NICE-technology-appraisals/DH-Documentation-for-Wider-Societal-Benefits.pdf>
- Dimitriadis P A, Iyer S and Evgeniou E (2013) 'The challenge of cancellations on the day of surgery', *International Journal of Surgery*, 11(10): 1126–1130. <https://doi.org/10.1016/j.ijisu.2013.09.002>
- Fanning A (2019) *Outstanding Models of District Nursing*, The Royal College of Nursing and the Queen's Nursing Institute
- Ferguson J and Walshe K (2019) 'The quality and safety of locum doctors: a narrative review', *Journal of the Royal Society of Medicine*, 112(11): 462–471. <https://doi.org/10.1177/0141076819877539>
- Guy's and St Thomas' (2022) *NHS staff find innovative way to tackle surgery waiting lists*, Guy's and St Thomas' NHS Foundation Trust. <https://www.guysandstthomas.nhs.uk/news/nhs-staff-find-innovative-way-tackle-surgery-waiting-lists>
- Haskel J and Martin J (2022) 'Economic inactivity and the labour market experience of the long-term sick'. <https://www.imperial.ac.uk/people/j.haskel/document/9802/Haskel%20Martin%20sickness%20inactivity%20v2/?Haskel%20Martin%20sickness%20inactivity%20v2.pdf>

- Holmes J and Jefferies D (2021) *Tackling the elective backlog – exploring the relationship between deprivation and waiting times*, The King's Fund. <https://www.kingsfund.org.uk/blog/2021/09/elective-backlog-deprivation-waiting-times>
- Koushan M, Wood L C and Greatbanks R (2021) 'Evaluating factors associated with the cancellation and delay of elective surgical procedures: a systematic review', *International Journal for Quality in Health Care*, 33(2). <https://doi.org/10.1093/intqhc/mzab092>
- LCP Health Analytics (2021) *The Elephant in the NHS Waiting Room*. <https://insight.lcp.uk.com/acton/attachment/20628/f-232ee308-1ed5-43b1-9012-d1f204dbdd9b/1/-/-/-/The%20elephant%20in%20the%20NHS%20Waiting%20Room.pdf>
- MacEwan C and Davis A (2019) *Ophthalmology: GIRFT Programme National Specialty Report*, Getting It Right First Time. <https://gettingitrightfirsttime.co.uk/wp-content/uploads/2019/12/OphthalmologyReportGIRFT19S.pdf>
- My Planned Care NHS (2023) 'My health and wellbeing – My Planned Care NHS', webpage. <https://www.myplannedcare.nhs.uk/my-health-and-wellbeing/>
- National Audit Office (2019) *NHS waiting times for elective and cancer treatment*, Department of Health & Social Care and NHS England. <https://www.nao.org.uk/wp-content/uploads/2019/03/NHS-waiting-times-for-elective-and-cancer-treatment.pdf>
- National Voices (2020) *Patient Noun Adjective: Understanding the experience of waiting for care*, National Voices. <https://www.nationalvoices.org.uk/publications/our-publications/patient-noun-adjective-understanding-experience-waiting-care>
- NHS (2022) *Delivery plan for tackling the Covid-19 backlog of elective care*, NHS. <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2022/02/C1466-delivery-plan-for-tackling-the-covid-19-backlog-of-elective-care.pdf>
- NHS Confederation (2022) *From safety net to springboard*. <https://www.nhsconfed.org/publications/safety-net-springboard>
- NHS Confederation (2023) *The evolution of provider collaboration*. https://www.nhsconfed.org/system/files/2023-03/The-evolution-of-provider-collaboration_FNL_0.pdf
- NHS Digital (2015) *Health Survey for England, 2014*. <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/health-survey-for-england-2014>
- NHS Digital (2023) 'Hospital Episode Statistics (HES)', dataset. <https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics>
- NHS England (2021). *Recording and reporting referral to treatment (RTT) waiting times for consultant-led elective care*. https://www.england.nhs.uk/statistics/wp-content/uploads/sites/2/2021/05/Recording-and-Reporting-guidance-April_2021.pdf
- NHS England (2022) 'Consultant-led Referral to Treatment Waiting Times Data 2022-23', dataset. <https://www.england.nhs.uk/statistics/statistical-work-areas/rtt-waiting-times/rtt-data-2022-23/#Nov22>
- NHS Leicestershire (2022) 'Virtual wards service extended, enabling more patients to be treated at home', news article, Leicestershire Partnership NHS Trust. <https://www.leicspart.nhs.uk/news/virtual-wards-service-extended-enabling-more-patients-to-be-treated-at-home/>
- NHS Transformation Directorate (2021) 'Improving hospital bed allocation using AI', case study. <https://transform.england.nhs.uk/ai-lab/explore-all-resources/develop-ai/improving-hospital-bed-allocation-using-ai/>
- NHS Transformation Directorate (2023) 'A guide to setting up technology-enabled virtual wards', webpage. <https://transform.england.nhs.uk/key-tools-and-info/a-guide-to-setting-up-technology-enabled-virtual-wards/>
- Office for National Statistics [ONS] (2022a) 'Economic inactivity by reason (seasonally adjusted)', dataset. <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/economicinactivity/datasets/economicinactivitybyreasonseasonallyadjustedinac01sa>

- Office for National Statistics [ONS] (2022b) 'Reasons for workers aged over 50 years leaving employment since the start of the coronavirus pandemic', dataset. <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/reasonsforworkersagedover50yearsleavingemploymentsincethestartofthecoronaviruspandemic/wave2>
- Office for National Statistics [ONS] (2022c) 'Employee earnings in the UK - Office for National Statistics'. <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/2022>
- Office for National Statistics [ONS] (2022d) 'Average weekly earnings in Great Britain - Office for National Statistics', dataset. <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/averageweeklyearningsingreatbritain/november2022>
- OECD (2022) 'Taxing Wages - the United Kingdom'. <https://www.oecd.org/tax/tax-policy/taxing-wages-united-kingdom.pdf>
- OECD (2023) 'Health Care Utilisation: Hospital average length of stay by diagnostic categories'. <https://stats.oecd.org/index.aspx?queryid=30165>
- Patel R, Sanichar D and Beckett A (2022) *Prioritising the elective care waiting list in Coventry and Warwickshire*, Ipsos and Office for Health Improvement and Disparities
- QCovid (2023) 'QCovid® risk calculator', webpage, University of Oxford. <https://qcovid.org/>
- Reed S and Credlin N (2022) *Patient-initiated follow-up: does it work, why it matters, and can it help the NHS recover?*, Nuffield Trust. <https://www.nuffieldtrust.org.uk/resource/patient-initiated-follow-up-does-it-work-why-it-matters-and-can-it-help-the-nhs-recover>
- Rocks S et al (2021) *Health and social care funding projections 2021*, Health Foundation. <https://doi.org/10.37829/HF-2021-RC18>
- Royal College of Surgeons (2022) *The case for surgical hubs*. <https://www.rcseng.ac.uk/about-the-rcs/government-relations-and-consultation/position-statements-and-reports/the-case-for-surgical-hubs/>
- Skills for Care (2022) *The state of the adult social care sector and workforce in England*. <https://www.skillsforcare.org.uk/adult-social-care-workforce-data/Workforce-intelligence/publications/national-information/The-state-of-the-adult-social-care-sector-and-workforce-in-England.aspx>
- Sunak R (2023) 'PM speech on building a better future', speech, Gov.uk. <https://www.gov.uk/government/speeches/pm-speech-on-making-2023-the-first-year-of-a-new-and-better-future-4-january-2023>
- Taylor J R A and Shouls S (2008) 'Transforming access: the role of data within service improvement to transform access to services', *Clinical Governance: An International Journal*, 13(1): 8-18. <https://doi.org/10.1108/14777270810850580>
- Taylor S et al (2018) A prospective observational study of the impact of an electronic questionnaire (ePAQ-PO) on the duration of nurse-led pre-operative assessment and patient satisfaction, *PLoS ONE*, 13(10)
- Vemulapalli K (2021) *BONES*, Barking, Havering and Redbridge University Hospitals NHS Trust and Getting It Right First Time. <https://www.gettingitrightfirsttime.co.uk/wp-content/uploads/2021/09/BHRUT-BONES-Week-HVLC-summary-2021-08-27.pptx>
- Ward D (2019) *Average pay for care workers: is it a supermarket sweep?*, The King's Fund. <https://www.kingsfund.org.uk/blog/2019/08/average-pay-for-care-workers>
- Warner M and Zaranko B (2022) *The NHS needs to ramp up treatment volumes if waiting lists are to start falling any time soon*, Institute for Fiscal Studies. <https://ifs.org.uk/articles/nhs-needs-ramp-treatment-volumes-if-waiting-lists-are-start-falling-any-time-soon>
- Warner M and Zaranko B (2023) *NHS waiting lists unlikely to fall significantly in 2023*, Institute for Fiscal Studies. <https://ifs.org.uk/news/nhs-waiting-lists-unlikely-fall-significantly-2023>
- WYAAT (2022) *West Yorkshire Association of Acute Trusts: Annual Report 2021/2022*, NHS. https://wyaat.wyhppartnership.co.uk/application/files/6216/6385/2562/WYAAT_Annual_Report_21-22.pdf

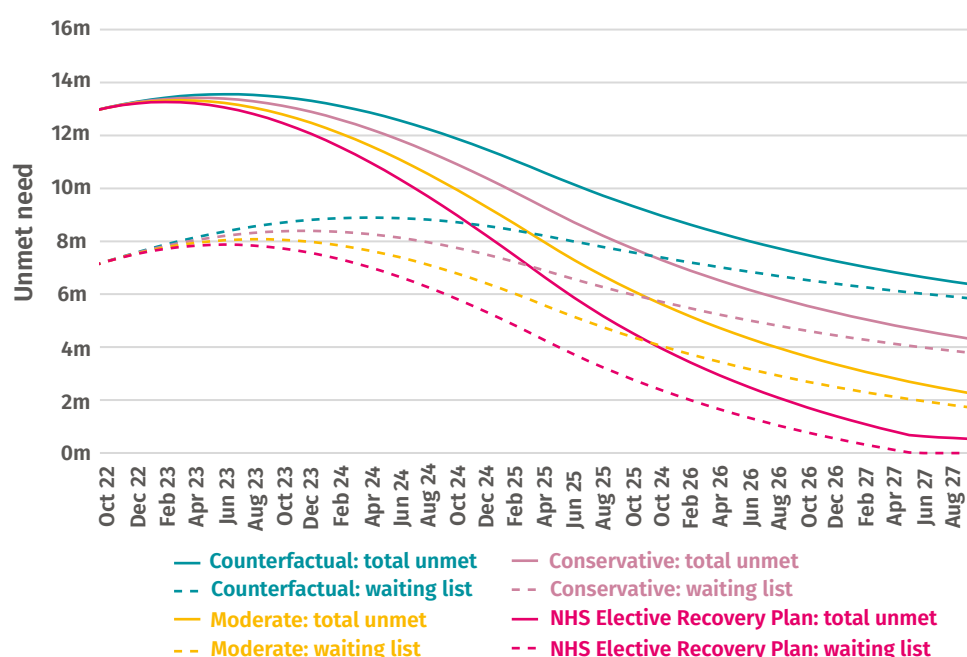
APPENDIX A.

TOTAL UNMET NEED MODEL METHODOLOGY

Our waiting list and unmet need projections first analyse the effects of the Elective Recovery Plan, delivering a 30 per cent increase on 2019 levels by May 2025, which we assume is then sustained until September 2027. We compare this to two partial implementation scenarios; a ‘moderate’ increase of 20 per cent and a ‘conservative’ increase of 10 per cent on 2019 levels of activity by May 2025. These are each compared to a counterfactual where elective activity returns to 2019 levels by May 2025 (an increase of 5 per cent from the current level). Each of these scenarios involve NHS capacity for inpatient and outpatient procedures increasing linearly over the period to 1 May 2025 and plateauing thereafter.

FIGURE A1: SENSITIVITY ANALYSIS OF ELECTIVE WAITING LIST TRAJECTORIES, ASSUMING 75 PER CENT OF HIDDEN NEED IS REFERRED TO THE WAITING LIST

Projection of unmet need for NHS elective treatments, 2022–27



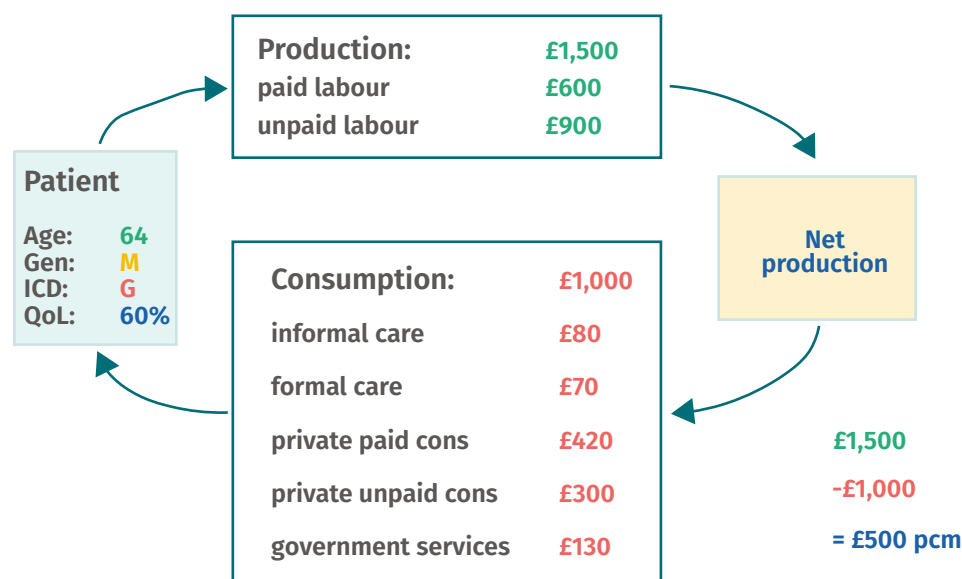
Source: LCP projection based on of consultant-led RTT waiting times (NHS England 2022)

Our projections are based on the NHS consultant-led referral to treatment (RTT) waiting list data to 30 September 2022 and cover the five-year period from 1 October 2022 to 30 September 2027 (NHS England 2022). We have used a multiple state model to project the size of the NHS waiting list into the future. Our core model assumes that 50 per cent of ‘hidden need’ patients who did not come forward during the pandemic will eventually present for treatment. This is in line with IFS estimates of the current rate of hidden need returners (Warner

and Zaranko 2022). We also conduct a sensitivity analysis (figure A1) using the more cautious assumption that 75 per cent of hidden need patients present for treatment in line with REAL Centre projections (Rocks et al 2021).

'Total unmet need' consists of the known waiting list (7.1 million at 30 September 2022) plus 'hidden need' in respect of patients not coming forward for care during the pandemic (7.8 million at 30 September 2022). Our hidden need projections do not vary by scenario; all the variation is driven by changes in the projected known waiting list.

FIGURE A2: NICE WIDER SOCIETAL BENEFITS MODEL METHODOLOGY



Source: Department of Health, 2013

To estimate the age distribution of the elective waiting list, we gathered Hospital Episode Statistics (HES) data from the 2021-22 financial year for inpatients and outpatients (NHS Digital 2023). This data is split by age and treatment specialty. We mapped each elective treatment specialty used in the waiting list data onto a specialty (or specialties) in the HES data using NHS guidance for recording and reporting RTT waiting times (NHS England 2021). We separately calculated the split of the elective waiting list by treatment specialty as at 30 September 2022.

Within each elective treatment specialty, we applied the age distribution of hospital episodes (inpatients and outpatients combined) within the corresponding HES specialty/specialties. Finally, we estimated the proportion of patients on the waiting list within each age band by taking a weighted average of the calculated proportions of patients within that age band across all elective treatment specialties.

We subsequently modelled the pre-treatment quality of life (QoL) for a patient on the waiting list by drawing on analysis undertaken by the University of York which groups patients by age bands based on the ICD-10 chapter of their condition (Claxton et al 2015). We drew on data from the Health Survey for England 2014 to obtain a patient's baseline QoL based on their age and gender (NHS Digital 2015). We then modelled post-treatment QoL by applying a scaling factor for each

condition to represent the extent to which patients move towards their baseline QoL score following treatment. The scaling factors are set out below.

TABLE A1: SCALING FACTORS

Type of surgery	Specialities included	Scaling factor
Minimal	Dermatology Ear, nose and throat (ENT) Ophthalmology Oral surgery Plastic surgery	100%
Major	Cardiothoracic surgery General surgery Neurosurgery Orthopaedics	50%
Minor	All other specialities	75%

Source: LCP analysis

COMPONENTS OF NET PRODUCTION

Wider societal benefits are defined by NICE as the 'net production' or 'net resource contribution' of the patient. A patient's net production is the amount of resources the patient contributes, net of the amount they use or consume (Department of Health 2013).

The value of paid production is calculated as:

$$\text{Gross wage} \times (1 + 16.4\%) \times \text{productivity (hrs worked)}$$

The gross wage is specific to patient age and gender, the 16.4 per cent uplift represents the typical overhead costs of employment, and the productivity rate reflects the proportion of time spent working, which depends on the patient's QoL score.

Unpaid production, for example caring for unwell relatives, childcare, or domestic work, is calculated by multiplying the average hours spent on unpaid production (based on the patient's age and gender) by the opportunity cost of that production, which is taken as being the mean net hourly wage of £15.05 as of September 2022. This calculation considers the probability of being a carer and/or sharing a household with a pre-school or school age child.

Under this model, a typical 65-year-old in good health contributes around 10 hours per week of paid production and around 40 hours per week of unpaid production.

Most of the financial assumptions set out in the NICE methodology note reflect price levels in 2010 or 2011. To allow for inflation since then, we have made the following adjustments and judgements in our calculations:

Private paid consumption is calculated by estimating mean household expenditure in 2022 (£520 per week), dividing by mean household size (2.35 persons), and adjusting for different levels of consumption at different ages. We have uplifted the average household spend from 2010 to 2022 based on the observed average rate of increase in this figure between 2010 and 2019. We followed this approach because data for 2022 is not available yet and the figures for 2020 and 2021 will have been

distorted by the pandemic. Unpaid consumption is calculated by multiplying the average amount of unpaid economic activity per person (115 hours per month) by the mean net hourly wage of £15.05. An adjustment to consumption is made for patients receiving residential care.

Formal care costs are calculated by estimating private care costs in 2022 (£2,555 per month) and multiplying by the probability of needing care, which depends on the patient's QoL score. We have uplifted the cost of residential care set out in the NICE methodology note from 2011 to 2022 in line with care home cost inflation rates based on research by LaingBuisson. A similar model is used to calculate the cost of receiving informal care, where the expected hours of care received depends on the patient's QoL score. We have excluded consumption of government services, as this does not depend on a patient's QoL score.

Subject to the above adjustments, we have followed the approach set out in the NICE methodology note in calculating our estimates of net production. We have not included the condition-specific adjustments to the cost of residential care for dementia and stroke patients, on the basis that dementia and stroke patients make up a small proportion of the elective waiting list.

ABOUT IPPR

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IPPR
14 Buckingham Street
London
WC2N 6DF
T: +44 (0)20 7470 6100
E: info@ippr.org
www.ippr.org
Registered charity no: 800065 (England and Wales),
SC046557 (Scotland)

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